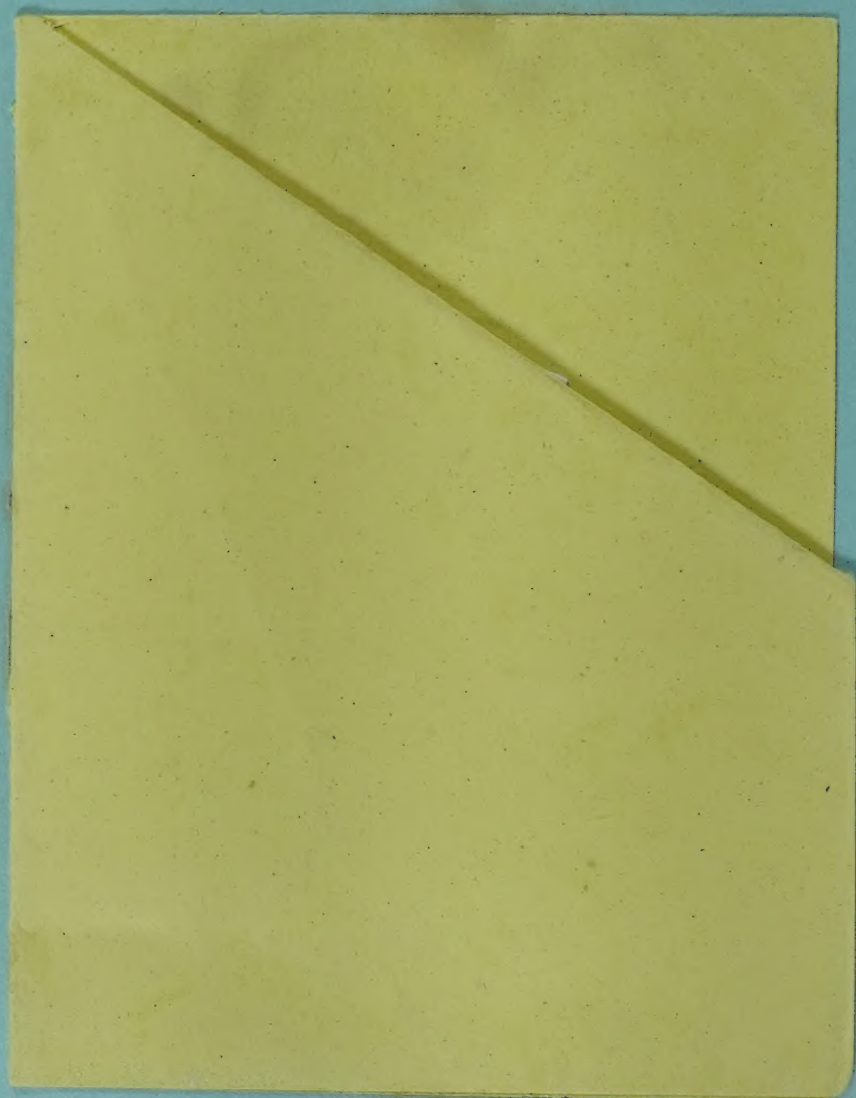


HAND BOOK OF IMMUNIZATION PROGRAMME

A CHECKLIST FOR QUALITY CONTROL & SUPERVISION

NATIONAL MISSION ON IMMUNIZATION
Directorate General of M.H. & F.W.
Uttar Pradesh

01592



COMMUNITY HEALTH
47/1. (First Floor) St. Marks Road
BANGALORE - 560 001

FOREWARD

The Universal Immunization Programme, envisages protection to 100 % expectant mothers and 85 % infants, have been extended to the entire state since April, 89.

A handbook on U.I.P. was a felt need for Health Administrator and programme implementators, for effective implementation and supervision.

This book, is based on the Booklet "Checklist for Quality Control and Supervision" brought out by Dr.G.A. Panse , Addl. Director (F.W.), Maharashtra Government. We offer our thanks to him for the same.

The idea of bringing out Documentation Series is praiseworthy and will continue to cover various aspects of the program. I hope that the series will be helpful to our officers in the field

DIRECTOR
FAMILY WELFARE
UTTAR PRADESH

IMMUNIZATION PROGRAMME

CHECKLIST FOR QUALITY CONTROL AND SUPERVISION

1. STORAGE OF VACCINES

- 1.1 Store DPT,DT,TT, Typhoid and BCG vaccines at temperatures, between 2⁰ and 8⁰ celsius. OPV and measles vaccines should preferably be kept below 0⁰ celsius, but can also be stored at temperature between 2⁰ and 8⁰ celsius.
- 1.2 Also loose vaccine vials must be put in a plastic bag and kept in the refrigerator so that their labels do not get removed due to moisture.
- 1.3 Vaccines without label should be destroyed after following the required procedure. [Specific for each state government].
- 1.4 OPV and measles vaccines should be stored in the freezer compartment, chiller tray or the first compartment of the domestic refrigerator, in the bottom of the I.L.R. or in the deep freezer.
- 1.5 The DPT,DT,TT,Typhoid and BCG vaccines should be stored in the second compartment of the refrigerator or in the basket of the ice lined refrigerator.
- 1.6 The diluents required for BCG and measles vaccines should also be stored with the vaccine at 2⁰ to 8⁰ celsius in the refrigerator.
- 1.7 The DPT,DT,TT and typhoid vaccines should not be frozen.
- 1.8 Vaccines with an early expiry date should be kept in the front row of the refrigerator, ice lined refrigerator or walk-in cooler where they are easily accessible and can be issued first. Vaccines with a later expiry date should be stored at the back.

- 1.9 Unused or unopened vaccines returned from the immunization clinic should be kept in a separate place in the refrigerator so that they are easily accessible and can be used first during the next immunization session.

Check List:

- 1) Vaccines having crossed the expiry date are not stored in refrigerator/ILR/deep freezer/WIC;
- 2) Only unused OPV vials are sent for potency testing;
- 3) Vaccine is never stored in any other device or container other than those described in this instruction book.

CH131

01592

2. HANDLING OF EQUIPMENT

- 2.1 The temperature of each refrigerator/ILR/deep freezer must be recorded on a prescribed temperature chart every day including Holidays, both in the morning and evening. A responsible person should be assigned the duty of recording the temperature and another person to supervise the work. Temperature chart must be prominently displayed near the refrigerator/deep freezer/ILR.
- 2.2 Bottles filled with water should be kept in the door of the refrigerator as well as in the bottom compartment so that the refrigerator remain cold for a longer time, when the electricity goes off. This water must not be used for drinking purposes.
- 2.3 Keep freezing ice packs in the freezer compartment of the domestic refrigerator, at the bottom of the I.L.R. or in the deep freezer and maintain a bank of frozen ice packs in the cold box.
- 2.4 While preparing the ice packs, ensure that:
- Water is filled in the pack upto 3 cm from the lid.
 - The lid fits tightly.
 - The ice pack does not leak when it is inverted.
- 2.5 The ILR, refrigerator and the deep freezer should be defrosted as frequently as required. While defrosting, vaccines should be transferred to a cold box with frozen ice packs. After defrosting, transfer the vaccines to the refrigerator/ILR when it reaches a temperature of 2^o to 8^o celsius.

2.6 The Ice Lined Refrigerator provided at some places have a dual function of either a refrigerator or a freezer, but only one function can be carried out at a time. The workers must be made aware of this fact and must first decide which is the exact function they expect from the ILR and turn the switch accordingly.

The ILR should either be used as refrigerator or as a freezer. Frequent switching over from one function to another is not recommended. When the yellow light is on, it indicates that the ice lined refrigerator is between +2 and +8 degrees celsius and thus suitable for the storage of vaccines.

Check List:

- (a) Search for Temperature Record.
- (b) See the the Temperature Variations.
- (c) See the ICE PACK BANK.
- (d) See the Water Bottles in domestic Refrigerators.

3. POWER BREAKDOWN

- 3.1 If there is a power failure then do not open the ILR/refrigerator containing the vaccines.
- 3.2 If the power failure lasts for more than two hours and the vaccines are stored in a domestic refrigerator, transfer the vaccines to a cold box with frozen ice packs.
- 3.3 The generator provided with the walk-in collar should be operated for at least one hour every week. Ensure that the generator battery is in working condition.
- 3.4 The institution that stores the vaccines should make alternative arrangements to meet any power failure on Holidays.
- 3.5 In case of a break-down of refrigerator/ILR containing a large stock of vaccines, the vaccines should be immediately transferred in cold boxes with frozen ice packs to the nearest health facility where there is a refrigerator/ILR. If in case the nearest health Centre is unable to accommodate the vaccines then shift it to the District headquarters under proper cold chain.
- 3.6 If the refrigerator breaks down and the vaccine stock is low and likely to be consumed within the next three days, then store the vaccine in the cold box with frozen ice packs and use it as soon as possible.
- 3.7 On break down of refrigerator, inform the District Immunization Officer, refrigerator mechanic of the district, private agency, if any engaged for maintenance of the refrigerator and the State Cold Chain Officer immediately in the prescribed format.

Check List:

Medical Officer & Dy. C.M.O. should keep watch on duration of power breakdown and act accordingly.

If necessary shift vaccine to some other suitable place.

4. TRANSPORTATION OF VACCINES

- 4.1 Only a person thoroughly trained, preferably P.M.A. at Dist. & S.P.S. at PHC, in cold chain maintenance should be given the task carrying and supplying of vaccines.
- 4.2 The supply of vaccines should be made on a fixed time and day .
- 4.3 Vaccines should be transported only in the cold chain equipment supplied, that is, refrigerated van, cold box, vaccine carrier and day carrier.
- 4.4 Only completely frozen ice packs should be used in the cold boxes, vaccine carrier or day carriers. Frozen ice packs should be kept at atmospheric temperature 2-3 minutes before putting them in the cold box or vaccine carrier.
- 4.5 Do not open the cold box or vaccine carrier on the way.
- 4.6 The vaccine delivery van and the cold chain equipment carrying the vaccines should always be kept in the shade to avoid direct heat and sunlight.
- 4.7 The vehicle in which the vaccines are transported must be in a good condition.
- 4.8 The vehicle used for carrying the vaccine should reach its destination as quickly as possible. Precautions are to be taken while transporting vaccines by personnel at Division/District/PHC and other health institution level. However, if the destination is too far, two drivers should be sent with the vehicle, so that they can take turns driving.
- 4.9 On receipt of issue of vaccines the entries in the stock register should be made immediately giving all details regarding the vaccines, particularly the expiry date.

Check List:

M.O./Dy.C.M.O.'s should keep watch on the vaccine issue and transport system.

5. PREPARATION FOR IMMUNIZATION SESSION

- 5.1 The health worker (male or female) should prepare a list of beneficiaries in the area covered by him and send this list to the concerned health authority well in advance. This will enable the latter to take adequate quantities of materials and vaccine for the immunization session.
- 5.2 Fix a day, time and place for the immunization session. The session should take place inside a building or in the shade at a time of the day when the temperature is not maximum. All efforts must be made to hold the session on that fixed day, time and place. Immunization should never be undertaken by paying house to house visit.
- 5.3 Detailed information about the immunization session should be displayed before hand at the site and at prominent places by putting up boards, etc.
- 5.4 The health worker should give prior intimation to the parents or beneficiaries about the immunization session and ensure that parents along with their eligible infants are present on time at the session. For this purpose, help can be sought from village health guides, volunteers, local leaders, social workers, etc.

Check List:

- Spot check of Immunizations session by Additional Director/C.M.O./Dy.C.M.O. & M.O.I/C.
- Check sterilization register of Syringes etc. at PHC.
- Counter Check availability of Adequate of quantity of Kerosene Oil, Soap, Spirit, etc.

6. MATERIALS AND EQUIPMENT REQUIRED FOR IMMUNIZATION SESSION

- 6.1 Health assistant should estimate the requirement of vaccines for the session on the basis of the list of beneficiaries and should carry the required vaccines in the vaccine carrier with frozen ice packs and reach the site of session on time.
- 6.2 Only the diluent supplied along with measles and BCG vaccines should be used. The diluents and the dropper should be precooled by carrying them along with the vaccine in the vaccine carrier.
- 6.3 Syringes and needles:
 - a) They should be autoclaved by trained persons who know how to check pressure, temperature and use of strip to determine whether proper sterilization has been done.
 - b) The required quantity of autoclaved syringes and needles should be carried in sterilized drums/pressure cooker type sterilizer, by the health assistant/health worker to the site of the session.
 - c) Once the sterilizer drum is opened the unused syringes and needles should be autoclaved again.
 - d) Syringes and needles used in the immunization session should be washed separately before autoclaving.

The SPS/LMV should check the following before proceeding to the immunization session:

- a) Whether ice packs in the vaccine carrier are frozen;
- b) Exposure of vaccine carriers to direct sun-light is minimized.

- c) That the DPT,DT,TT and Typhoid vaccines are not frozen-do shake test-"If you feel the vaccine is frozen then shake the vial throughly and see whether it mixes will. No particles should be found. Then wait for half an hour and if vaccine does not get completely mixed up, then do not use it".
- d) That the exact number of ampoules/vials required are carried to the session, so that a minimum number of unused vials return to the store.
- e) That only good syringes and needles are used for the immunization session. Blunt needles and cracked syringes should be discarded.

5. The health worker and SPS/LMV should ensure that the following materials and equipment are available at the site of the session.

- a) Sufficient number of autoclaved syringes and needles.
- b) Sterile forceps.
- c) Sufficient quantity of each vaccine in the vaccine carrier.
- d) Adequate quantity of ice cubes when required.
- e) BCG Kit
- f) Bottle of spirit
- g) Immunization Cards
- h) Immunization Register
- i) Bowl for keeping syringes and needles
- j) Soap and towel
- k) File to open ampoules
- l) Bowl for keeping ice
- m) Sterilized forceps
- n) Cotton swabs for applying spirit
- o) Match box
- p) Pen

6. Arrange the session in a methodical way:
- Beneficiaries should be seated in an orderly way.
 - Entry in the register and immunization card should be made. **AFTER** giving the vaccination.
 - The date of vaccination should be clearly entered.
 - Age of infant/baby should be clearly entered.
 - Care should be taken to immunize every child at the proper age as per the National Immunization Schedule.
 - Reporting of immunization should be done separately for 0-1 year age group and above one year age group.
7. Before administering the vaccines the health assistant should wash his/her hands thoroughly with soap and water. Nails should be cut.
8. Vaccines should be given in the following manner.

Name of Vaccine	Method of Vaccination	Syringes	Needles
D.P.T.	Intramuscular on the thigh of the child	2ml	23 Gauge
POLIO	Orally with dropper or Directly from vial		
MEASLES	Subcutaneous (on the outer side of the arm)	2ml	23 Gauge
B.C.G.	Intradermal (near shoulder)	1ml/ 0.1ml	26 Gauge

The dosage of the vaccine administered to the beneficiary should be strictly according to the quantity recorded on the vial by the manufacturer: The quantity of vaccine given should be neither more nor less.

6.10 When using vaccines DO NOT USE:

- A vial without a label
- A cracked vial
- While breaking open an ampoule pieces of glass may fall inside the ampoule:
DO NOT USE SUCH AN AMPOULE.
- The vial without shaking it thoroughly.
(The vaccine particles should get thoroughly mixed with the diluent)

6.11 Start immunization with the polio vaccine, and then administer the other vaccines.

6.12 Ensure that the child has swallowed the polio vaccine completely. Otherwise give him/her another dose.

6.13 If a dropper is provided with the polio vaccine, use it.

6.14 During the immunization session, a new vial should be opened even for a single child. In such cases, the worker will not be held responsible for wasting remaining doses.

6.15 Do not use the vaccine from a half used vial during any other session.

6.16 Use a single sterilized syringe and single sterilized needle for each injection.

6.17 Give health education to mothers in groups of five. Explain about date and time of the next session and the importance of attending the next session. Talk about the dangers of dropping out. Also explain minor reactions expected due to immunization. Explain which minor illnesses are not contraindications. Impart knowledge about vaccine preventable diseases, benefits of immunization and the vaccination schedule.

M.O. should have one's a month Dress Rehearsal of IMMUNISATION session with all his workers

7. HANDLING VACCINE LEFT OVER AFTER SESSION

7.1 Bring back to the PHC headquarters all unopened/unused/packed vials in the vaccine carrier with ice packs.

Mark them & store separately.

Take out such vials. First on the next working day.

Vials taken out three times and not used be discarded.

7.2 Half used vials must be collected separately and brought to the PHC headquarters for destruction under supervision of a medical officer. They should be kept in Red plastic shopping bag and should not be used & Dy.C.M.O s will provide Red shopping bags to his PHCs.

Separate colour bags be used for other purposes. e.g. carrying different vaccine to different colour.

8. REACTIONS AFTER IMMUNIZATION

1. Please explain to mothers that the reaction after BCG vaccination should be a small lump or papule which will appear in the third or fourth week and which will form pus around the sixth week. THIS IS NORMAL and requires no treatment. It should not be touched or scratched. At the end of 10 to 12 weeks only a small scar should be visible.
2. Some of the other more common reactions which may occur after vaccination are the following:
 - Mild fever.
 - Mild swelling and pain at the vaccination spot.
 - Itching all over the body.
 - Mild rash on the body six to seven days after the measles vaccination.
3. Infants who get any of these common reactions following vaccination should be examined and kept under observation for a few days. If necessary, be admitted to a medical centre under the care of a specialist.
4. Some times there may be severe reactions following vaccination:
 - High grade fever
 - Convulsion
 - Abscess at the spot of the injection
 - Vomitting.
5. In cases where the reaction is severe, the infant should be immediately shifted to the nearest health institute for medical treatment.

6. If no facility for treatment is available at the primary health centre, rural health centre or the health institute, then the infant should be shifted to an institution with better medical facilities, such as a general hospital.
7. Information about such reactions after immunization should be immediately passed on to the MO/C.M.O. and, at the state level, to the State EPI officer and Additional Director (MCH) or any such appropriate authority either telegraphically or by telephone.
8. If any infant gets a severe reaction following vaccination then all the infants vaccinated in the same session must be examined and if needed kept under observation in health institute/civil hospital/medical college.
9. On receipt of any case of severe reaction, the medical officer should immediately seal the half used vials of the particular session and keep them for testing purposes. He should also draw samples of unused vials from the same batch and keep for testing. The samples drawn for testing should be kept under prescribed cold chain conditions and not at room temperature.
10. In case of severe reactions the DHO/CMO/CS should conduct a complete enquiry and submit his report to the state government immediately.
11. Regular surveys should be carried out on the number of children getting adverse reactions following vaccination.
12. The medical officer in whose jurisdiction

the reactions have occurred should include this information in the report submitted to the higher authority every month; the nature of the reactions should be entered in this report for all children vaccinated during that month, and followed up until the end of the next month. For example, reactions in children vaccinated in August should be followed up until the end of September and the report on them prepared on 1 October and submitted along with other reports.

9. ADVERSE REACTION INVESTIGATION

Common Reaction: MO I/c

MO I/c / Dy CMO

Abscess

Severe Reactions

District Team

Divisional Team

Severe reactions be reported to District HQ, Divisional HQ and State HQ within six hours.

All equipment, vaccines, record kept under lock & key in proper temperature. for analysis & checking.

10. SUPERVISION

1. The responsibility for supervision and the quality of the immunization programme lies squarely with the supervisor. The supervisor should do the following meticulously:
 - a) Ensure that all instructions issued in this booklet are scrupulously followed.
 - b) Identify difficulties in the implementation of the programme and offer suggestions to improve the performance.
 - c) Keep a record of the work carried out for scrutiny by senior officers.
 - d) Pay more attention to poor performance areas.
 - e) Ascertain whether the instructions received from the higher authorities from time to time are understood correctly and followed by the concerned staff.
 - f) Clarify doubts and resolve difficulties of the concerned staff.
 - g) Use checklists devised for supervisory visits.
 - h) Periodically check the stock books for vaccine and carry out stock verification.
2. A calendar of supervisory visits for all levels should be drawn up every month and the concerned officials should adhere to it.
3. The responsibilities of ensuring planning of immunization activity in the District rest fully with the C.M.O. at the District

level. He/she should ensure the participation of all persons involved in any of the activities relating to immunization programme in developing the district plan and subsequently a planned approach to the process of implementation of this programme. Follow these guidelines both in letter and spirit. The supervisor and his/her team will definitely find a visible decrease in morbidity and mortality due to their good work.

At PHC c̄ Dy. CMO & MO PHC

11. MONITORING

- Periodical Monitoring by CMO/Dy.CMO.
- Session wise Monitoring by M.O. I/c PHC.
- See Temperature records of storage.
- Number of Drop outs.
- Vaccine Consumption Rate.
- Check immunization Cards in the field.
- Achivement against Targets.

